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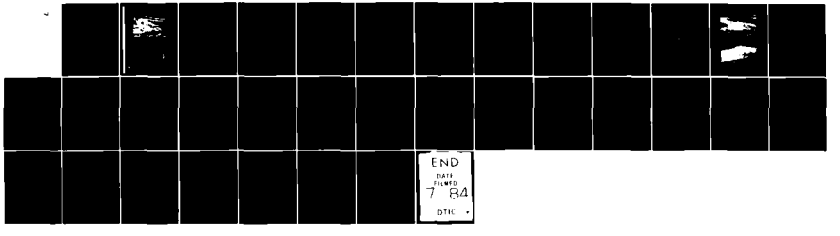

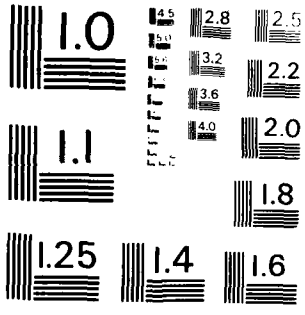

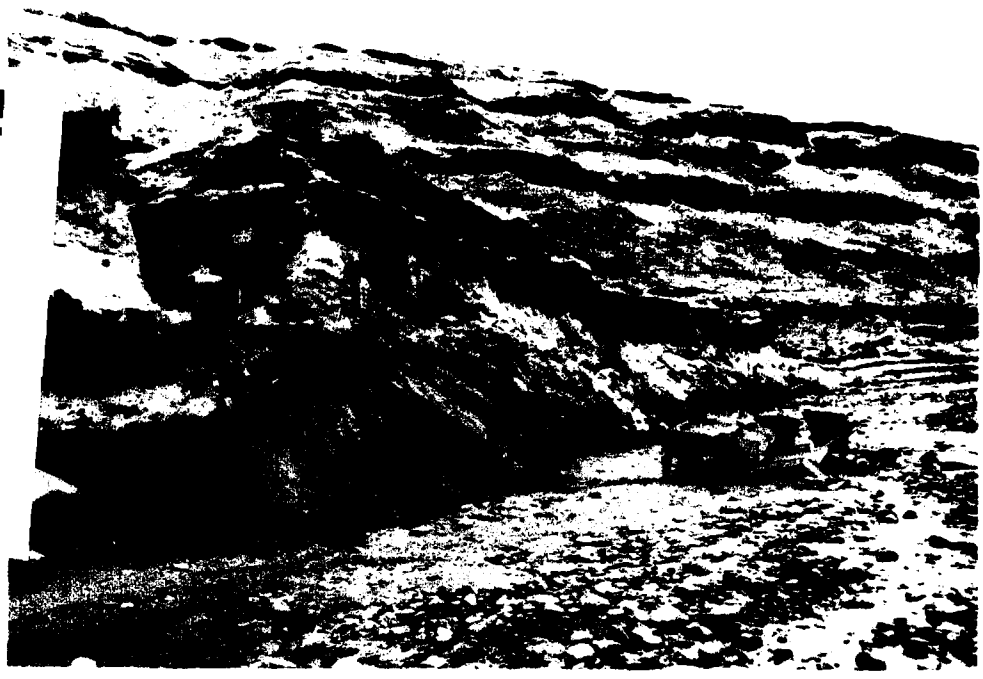

Test Excavations at the Mitchell Site 45WW62, Walla Walla County, Washington

By Glenn D. Hartmann

1984

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Artifacts found at 45WW62 by an amateur archaeologist suggested that the Mitchell Site might contain a Windust Phase component (ca. 11,000 - 8,000 B.P.). Because archaeological sites dating to this early time period are uncommon, a testing program was undertaken. Results of testing indicate there are probably still sediments which could contain Windust sediments. However, it is most likely that the majority of the site was inundated during pool raising behind Ice Harbor Dam and that most of the remaining portion of the site subsequently has been eroded.

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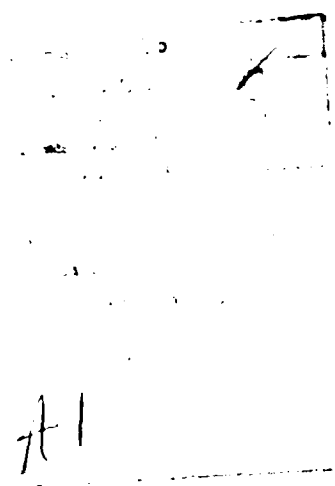
TEST EXCAVATIONS AT THE MITCHELL SITE, 45WW62, WALLA WALLA COUNTY, WASHINGTON

by

Glenn D. Hartmann

Co-Principal Investigators:

Harvey S. Rice
Glenn D. Hartmann



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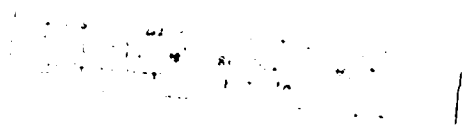

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Numerous individuals assisted in the fieldwork and in the preparation of this report. Stanley Gough assisted in directing the field crew, which consisted of Thomas Ramsey and John Erp. Dan Landis mapped the site and Jerry Galm generously donated time to visit the site and discuss stratigraphy. Field assistance provided by Pamela Rutan is gratefully acknowledged.

Laboratory work was accomplished by Dan Landis. Soils analysis was conducted by John Lamana at the University of Washington. Graphics were prepared by Pam Rutan. The final manuscript was prepared by Priscilla Wopat and Marsha Krebs.

Thanks are due Leroy Allen and John Leier of the Walla Walla District Corps of Engineers for their continued support and assistance throughout the course of this contract. John's assistance on the water screen was especially appreciated.

Special thanks are due Fred Mitchell of Walla Walla for bringing the site to the attention of the Washington Archaeological Research Center. Mr. Mitchell also allowed us to examine his collection from the site and provided considerable information about the local archaeology.

ABSTRACT

Test excavations were conducted at prehistoric site 45WW62, Walla Walla County, Washington, by Archaeological and Historical Services, Eastern Washington University. The site is located along the Snake River on lands administered by the Walla Walla District of the U.S. Army Corps of Engineers. Excavations focused on determination of site extent, content, and research potential pursuant to eligibility for inclusion in the National Register of Historic Places.

Artifacts found at the site by an amateur archaeologist suggested a Windust phase occupation. The testing effort, therefore, concentrated on identification of sediments likely to be of the appropriate age to contain such materials in situ.

The results of testing indicate that there probably are still sediments which could contain Windust phase materials; however, few artifacts were recovered during testing. It is considered probable that most of the site area was inundated by the raising of the pool level behind Ice Harbor Dam, and that most of the site subsequently has been eroded.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Cover Photo: Excavations at 45WW62, the Mitchell site, summer 1983

INTRODUCTION

In compliance with the management mandates set forth in Executive Order 11593, the U.S. Army Corps of Engineers (Corps), Walla Walla District, has sponsored a series of cultural resource surveys and archaeological excavations along the lower Snake and middle Columbia rivers during the past several years. The primary objectives of these investigations have been to inventory and evaluate sites for nomination to the National Register of Historic Places. At the request of the Corps, Archaeological and Historical Services (AHS) of Eastern Washington University conducted test excavations to evaluate archaeological site 45WW62, the Mitchell site, in the summer of 1983 as part of the on-going inventory and evaluation program.

The Mitchell site was first reported to the Washington Archaeological Research Center (WARC) at Washington State University by Fred Mitchell of Walla Walla, Washington, in 1981. Mitchell had been collecting artifacts washing out along the beach in the area of the site for several years. The collection included several points assignable to the Windust phase (ca. 11,000-8,000 B.P.), the earliest recognized cultural period in the interior Northwest. Because archaeological sites which date to this early time period are uncommon, the addition of a new site to the present inventory of Windust phase sites would be significant. Therefore, the site was visited by WARC archaeologists, who recorded it and recommended it for extensive testing (Hackenberger and Howes 1981).

In the spring of 1983, 45WW62 was visited by archaeologists from AHS and the Corps to develop a plan for testing. Because cultural materials did

not appear to be abundant on the beach and because there was minimal evidence for buried materials in the cutbank, there was considerable question about the depositional contexts of the archaeological materials. It was considered possible that the site was entirely eroded and that the materials on the beach were all that remained of the site.

SITE SETTING

The Mitchell site is located in the E 1/2 E 1/2 of Section 1, T11N, R33E, Walla Walla County, Washington (Figure 1). The site is on the left (south) bank of the Snake River at River Mile 33, approximately 2.4 km (1.5 mi) upstream from the point where Walker Canyon joins the Snake River Canyon. Examination of aerial photographs taken prior to the raising of the river pool level behind Ice Harbor Dam indicates that the site area extended several hundred meters to the north (Figure 2). It appears that most of this site has already been inundated.

In the vicinity of the site, the Snake River flows through a broad canyon up to 3.2 km (2 mi) wide and 210 m (700 ft) deep. This locale lies within the Central Lowlands of the Pasco Basin section of the Columbia Basin subprovince as defined by Freeman et al. (1945). Daubenmire (1970) has characterized the native vegetation of the canyon as belonging to the Agropyron spicatum-Poa secunda habitat type. Detailed discussion of early Holocene environments as related to human occupation of the region has been presented by several researchers (e.g., Hammatt [1977], Gustafson [1972], Fryxell et al. [1968]) and need not be repeated here.

Identification of sediments as being of the appropriate age to contain Windust phase cultural materials is essential to verifying 45WW62 as an early Holocene site. Hammatt (1977) has provided a model for identifying

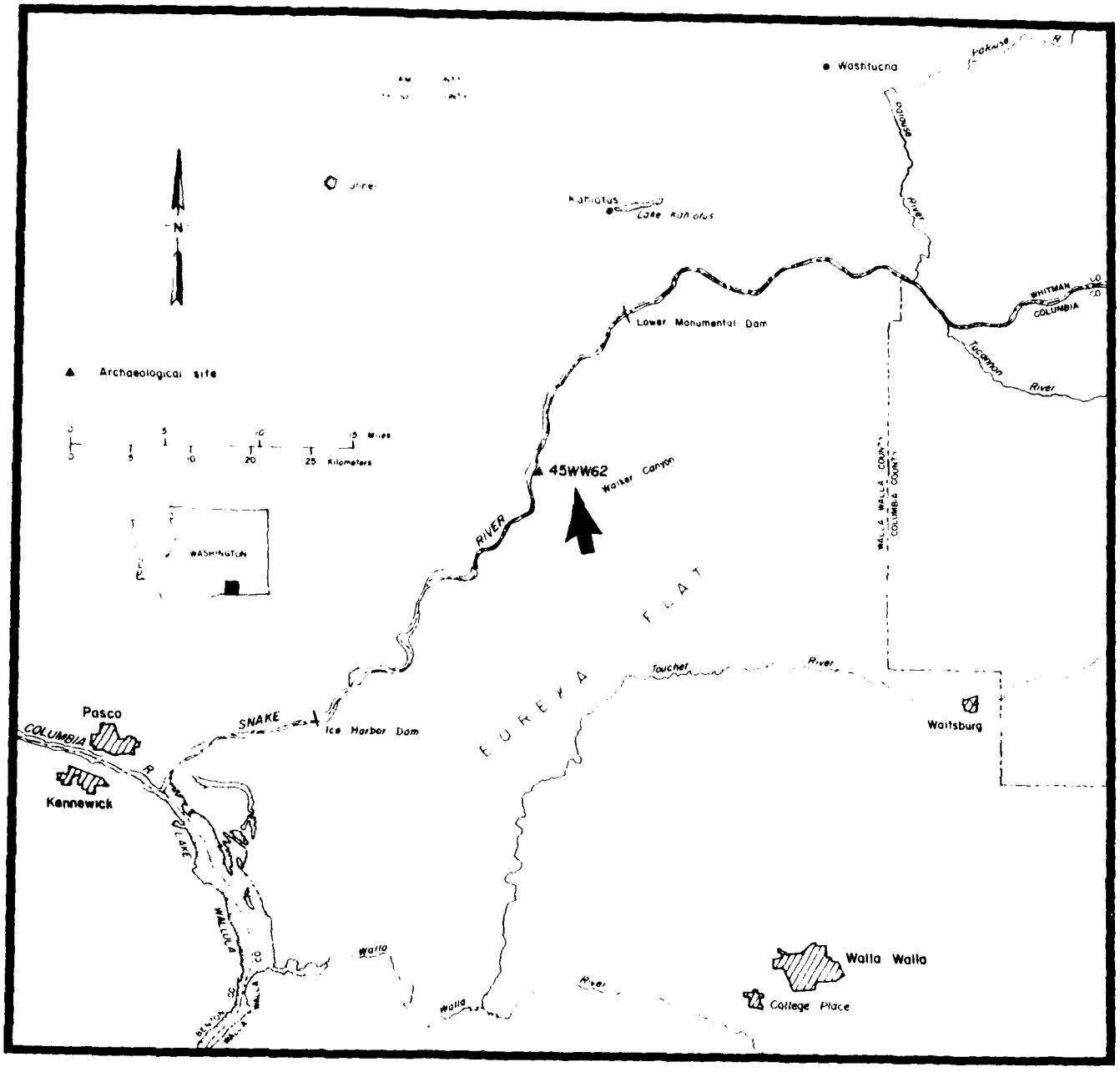
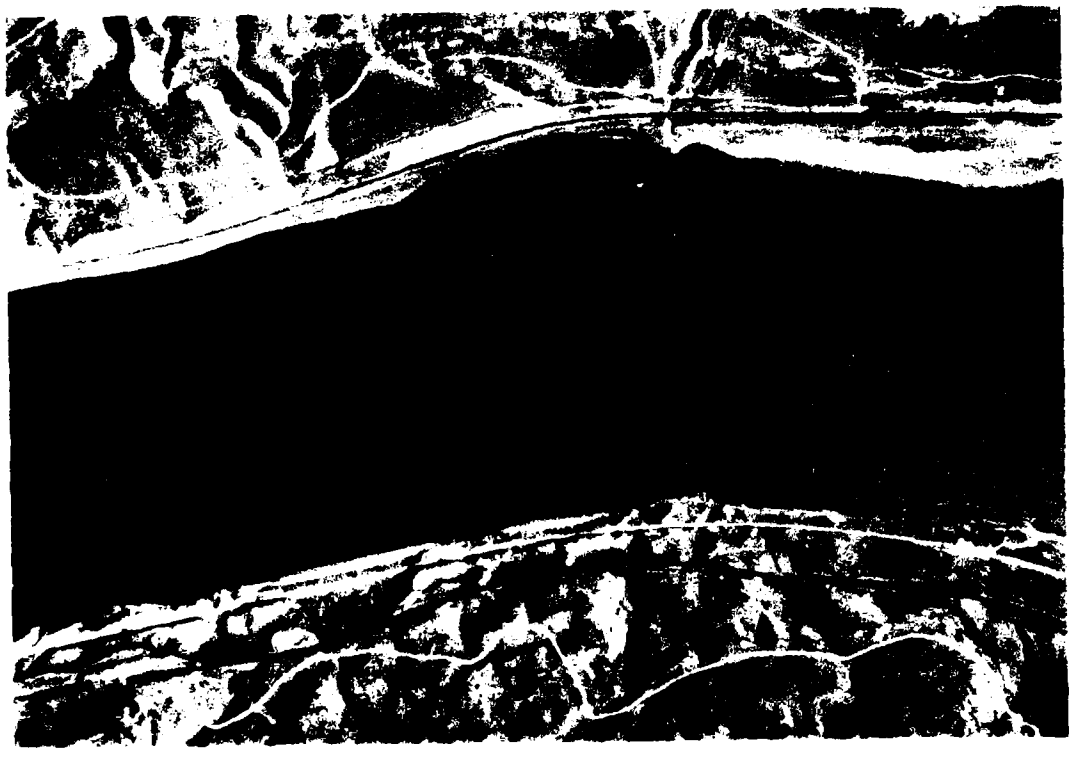


Figure 1. Map of project area.

(a)



(b)

Figure 2. Aerial photographs of 45WW62 prior to (a) and after (b) inundation.

and interpreting stratigraphic sequences along the lower Snake River. Using data derived from a study in the Lower Granite Reservoir upstream from the Mitchell site, Hammatt has constructed a late Quaternary depositional history. Formation of the Channeled Scabland topography began with the scouring of eastern Washington by a series of events referred to as the Spokane or Missoula Flood, the last episode of which is dated to between 14,000 and 13,000 B.P. A period of aggradation followed between 10,000 to 8000 years ago and formed a high terrace (early alluvium) upon which a soil developed. This terrace also contains a layer of Mazama ash dated to ca. 6700 B.P. An aeolian unit was then deposited on the terrace, mixing ash and ash-rich loess. This unit stabilized ca. 5000 years ago. A second period of aggradation ca. 4000 to 2500 B.P. formed a lower terrace (middle alluvium) upon which a soil formed and sand/silts of aeolian origin were deposited. This period of deposition continued until after 1000 B.P. After a brief period of stability, aeolian activity resumed and has continued to the present. Correlation of this depositional sequence with regional cultural chronology is shown in Figure 3. The presence of early alluvium sediments at 45WW62 would indicate that there is a depositional matrix in which Windust phase materials might be found.

ARCHAEOLOGICAL BACKGROUND AND RESEARCH ORIENTATION

The Windust phase has been defined by Leonhardy and Rice (1970) and thoroughly described by D. Rice (1972). Major excavations along the lower Snake River containing components assignable to this phase include Windust Caves (H. Rice 1965), Marmes Rockshelter (Fryxell et al. 1968; Fryxell and Keel 1969; D. Rice 1969; Gustafson 1972), and Granite Point (Leonhardy 1970).

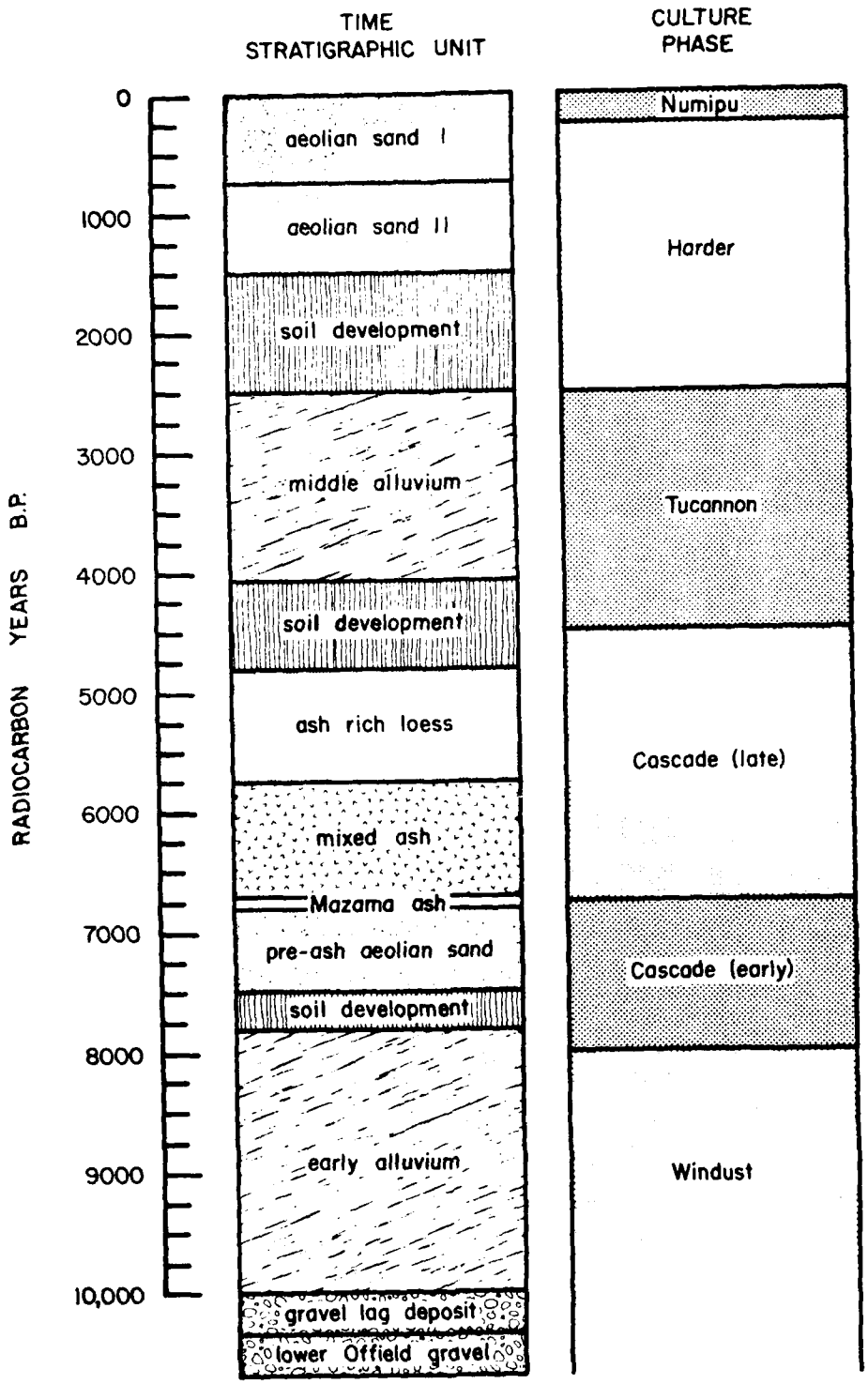


Figure 3. Correlation of late Quaternary stratigraphy with cultural chronology (from Hammatt 1977:Figure 47).

A Windust component recently has been identified at Hatwai on the lower Clearwater River (Ames et al. 1981). A summary of archaeological components of comparable age has been prepared by Hackenberger and Howes (1981) and is presented in Table 1.

Because the archaeological materials at 45WW62 exist as a diffuse scatter along the beach, with very few materials identifiable in the cutbank, the primary goal of testing was to demonstrate that archaeological materials were still buried in situ at the site. If the early alluvium sediments could be identified during testing, it was hypothesized that a Windust phase component should be contained therein. Secondary objectives for testing were to define the nature and extent of this component, if possible, and to determine if materials dating to occupations later than Windust were present. To recover information on any post-Windust occupation(s), it was decided to test excavate the entire profile.

METHODOLOGY

Sediments at the Mitchell site are up to 6 m (19.8 ft) deep, the upper two-thirds of which are loosely compacted aeolian sands. It was necessary, therefore, to remove sections of the overburden mechanically to minimize the possibility of the sidewalls collapsing. To accomplish this, three backhoe trenches were stepped back from the cutbank perpendicular to the river (Figure 4). Test units were placed on each step of the trench in such a manner that a continuous profile was excavated (see Figure 5 for a schematic representation). The location of the trenches was determined judgmentally, based on the presence of cultural materials on the beach and on the contours of the surface of the site. A trench also was dug parallel to the river with the objective of understanding the depositional processes in greater detail.

Table 1. Dated and Undated Components of the Paleo-Indian and Windust Traditions in the Southern Plateau and Surrounding Areas (adapted from Hackenberger and Howes 1981).

Site*	Date	Affiliation	Reference
Simon (SP)	Undated	Clovis	Butler 1963
Wasden (SP)	12,250±200	Folsom	Butler 1972; Miller and Dort 1978
	12,800±150	Folsom	
	10,920±	Folsom	
Wilson Butte (SP)	Undated	Agate Basin/ Midland	Gruhn 1961
Haskett (SP)	Undated	Haskett	Butler 1965
Thorn Creek Reservoir (SP)	Undated	Haskett	Butler and Fitzwater 1965
Redfish Lake (SP)	9860±480	Haskett	Butler 1973
Marmes Rockshelter (SP)	10,750±100	Windust	Fryxell et al. 1968
	10,810±275	Windust	
	10,475±270	Windust	
Lind Coulee (SP)	9400±940	Windust	Daugherty 1956; Irwin and Moody 1978
	8518±460	Windust	
	8600±65	Windust	
	12,830±1050**	Windust	
	8720±200	Windust	
Granite Point (SP)	14,100±1160**	Windust	Leonhardy 1970
Wildcat Canyon (SP)	Undated	Windust	Cole 1968
Five Mile Rapids (SP)	9785±220	Windust	Cressman 1960
Shoup Rockshelter (SP)	8175±230	Windust	Swanson and Snead 1966
45WT2 (SP)	Undated	Windust	Nance 1966
Cooper's Ferry (SP)	Undated	Windust	Butler 1962, 1969
Ash Cave (SP)	Undated	Windust	Butler 1958
Lenore (SP)	Undated	Windust	Toups 1970
45WT35 (SP)	Undated	Windust	Sprague and Coombs 1966
Thorn Thicket (SP)	Undated	Windust	Sprague and Coombs 1966
Goldendale (SP)	Undated	Windust	Warren et al. 1963
Windust Cave (SP)	Undated	Windust	H. Rice 1965
Fort Rock Cave (SP)	Undated	Windust	Bedwell 1973
Cougar Mountain 1 (GB)	Undated	Windust	Bedwell 1973
Cougar Mountain 1 (GB)	Undated	Haskett	Layton 1972
Medicine Lodge Creek (NW)	9620±260	Windust (?)	Frison 1976
Conley Caves (GB)	9540±260	Haskett	Bedwell 1973
	9800±250	Haskett	
	7430±140	Haskett	
	8290±310	Haskett	
Brewster (NW)	10,375±700	Folsom	Agogino 1972

Table 1. (Continued)

Site*	Date	Affiliation	Reference
Hanson (NW)	10,700±670	Folsom	Frison 1978
	10,080±330	Folsom	
Lindenmeier (NW)	10,850±550	Folsom	Frison 1978
Dent (NW)	11,200±500	Clovis	Wormington 1957
Colby (NW)	10,548±141	Clovis	Frison 1978
UP Mammoth (NW)	11,280±350	Clovis (?)	Irwin et al. 1962
Lindsay Mammoth (NW)	10,700±290	Clovis (?)	Frison 1978
	10,980±225	Clovis (?)	
	11,925±350	Clovis (?)	
Sister's Hill (NW)	9600±230	Hell Gap	Agogino and
	9650±250	Hell Gap	Galloway 1965
Casper (NW)	9830±350	Hell Gap	Frison 1974
	10,060±170	Hell Gap	

* (SP) = Southern Plateau, (GB) = Great Basin, (NW) = Northwestern Plains

** Date is rejected by investigator

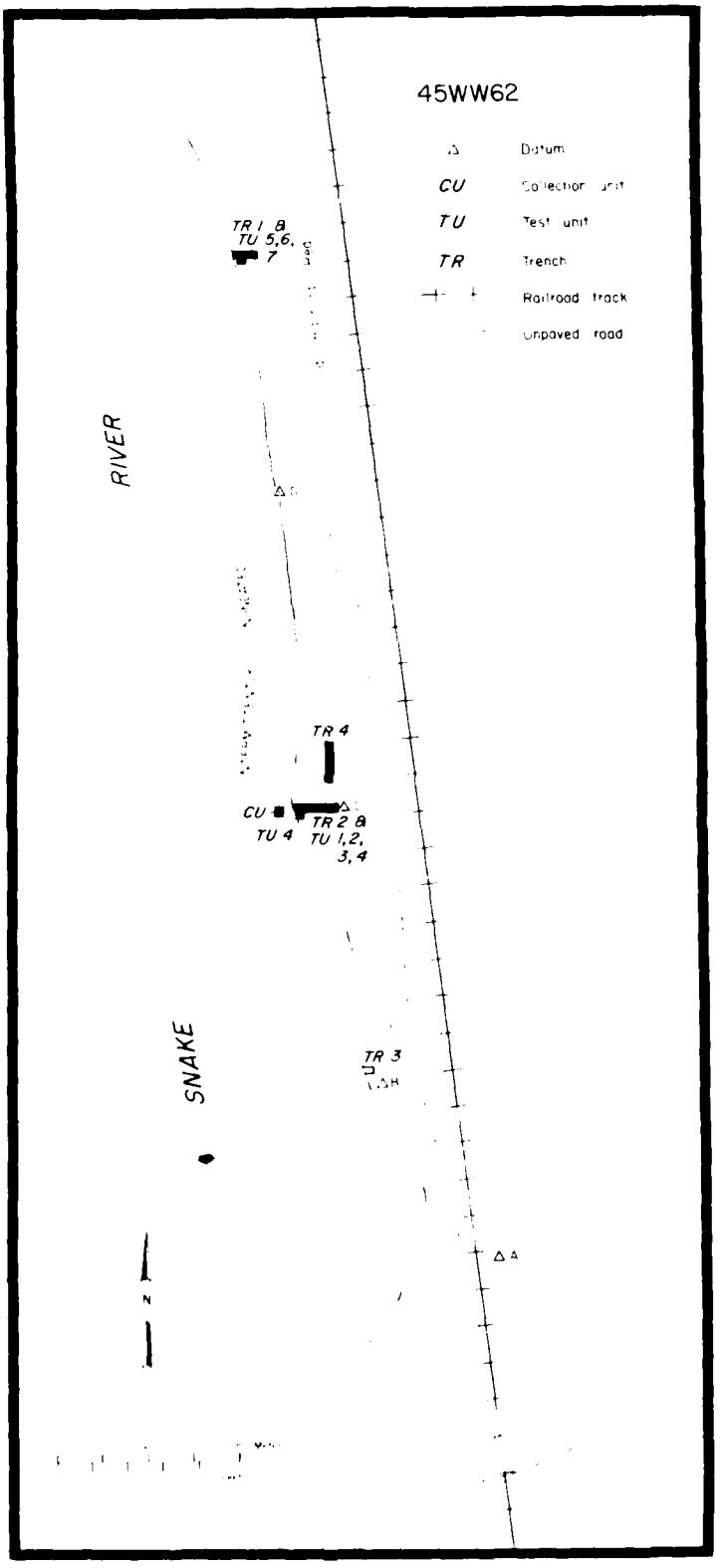


Figure 4. Plan view of site 45WW62.

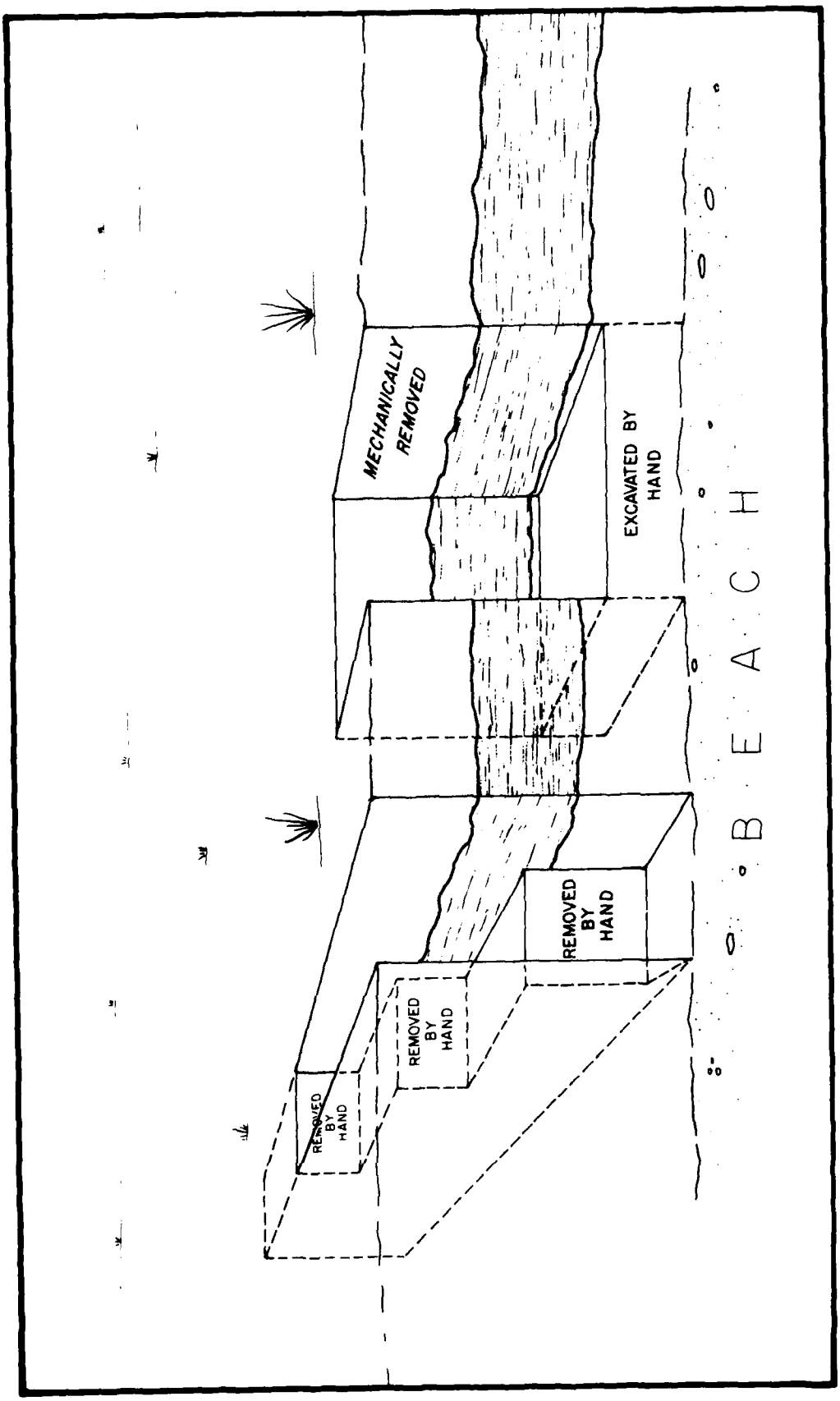


Figure 5. Schematic diagram showing the plan of excavation, 45Ww62.

Although the original plan called for excavating all steps in the three trenches, the results of the excavation in Trench 2, in which the early alluvium deposits were identified, suggested that excavations in Trench 1 would be unnecessary. Trench 1 was profiled, however (Figure 6). It also was decided not to excavate through the aeolian sands in the upper two-thirds of Trench 3, but to concentrate on the early alluvium since the results of testing the upper strata of Trench 2 had produced only a small number of cultural materials.

All test units were 1 x 2 m in plan view and were excavated in arbitrary 10 cm units using shovels and trowels. Sediments were water screened through 1.5 mm mesh hardware cloth. The datum for each test unit was the surface of the southeast corner. Profile diagrams were drawn for each trench (Figures 7 and 8). The profile for Trench 3 is a composite of two walls since the trench walls had slumped in the area around the test pit.

RESULTS

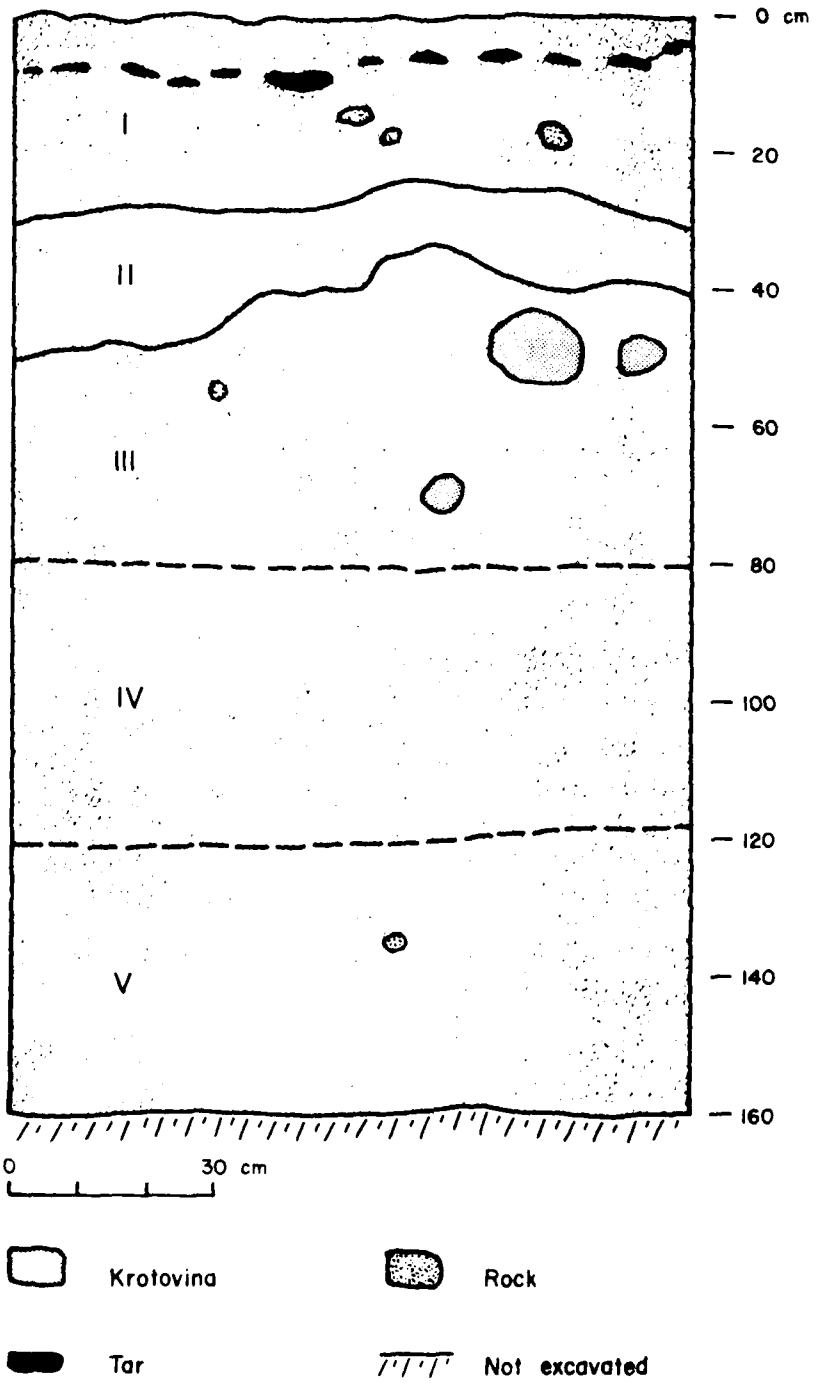
Only six lithic flakes were recovered from 45WW62. The association of some of these with the early alluvium deposits suggests that excavation of large block units could reveal a Windust phase occupation.

Four test units were excavated in Trench 2 (see Figure 4). Table 2 shows the association of test units in Trench 2 with stratigraphic units. Note that the units "overlap" in the excavation of stratigraphic units, and thus the entire profile was excavated, although in discontinuous test units.

Stratigraphic Unit V in Trench 2 was correlated with the early alluvium as described by Hammatt (1977:Figure 47) (Figure 9). It was highly calcareous and contained calcium carbonate root casts and carbonate skins along ped faces. Remnants of a former surface were identified at the

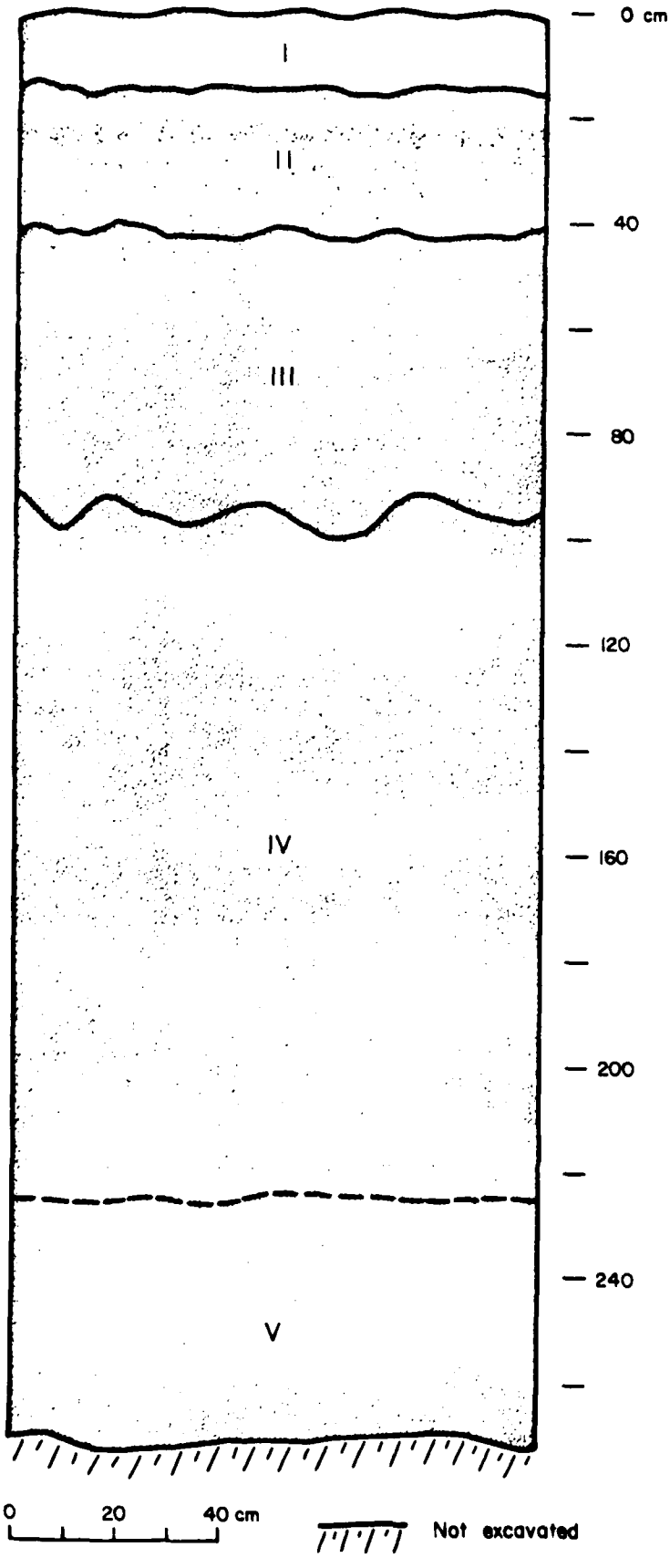
I	0-24 cm	10YR5/2d; sandy loam, single grain, non-sticky, non-plastic; common fine roots; water-rounded gravels present; abrupt smooth boundary.
II	24-34	10YR3/3m; sandy loam, massive, non-sticky, non-plastic; fine common roots; charcoal band up to 2 cm thick consisting of small flecks; abrupt wavy boundary.
III	34-84	10YR3/3m; sandy loam, massive, non-sticky, non-plastic; contains many small (2 mm in diameter) carbonate inclusions that are violently effervescent; common very fine roots; abrupt smooth boundary.
IV	84-122	10YR3/3m; sandy loam, massive, non-sticky, non-plastic; common very fine roots; same carbonate inclusions as in Stratum III; abrupt smooth boundary.
V	122-160 (bottom)	10YR3/3m; sandy loam, massive, non-sticky, non-plastic; common very fine roots; occasional small (<5 cm) pebbles; strongly effervescent matrix.

Figure 6. Stratigraphic profile, Trench 1, 45WW62.


0 cm
20
40
60
80
100
120
140
160
I
II
III
IV
V
0
30 cm
Krotovina
Rock
Tar
Not excavated

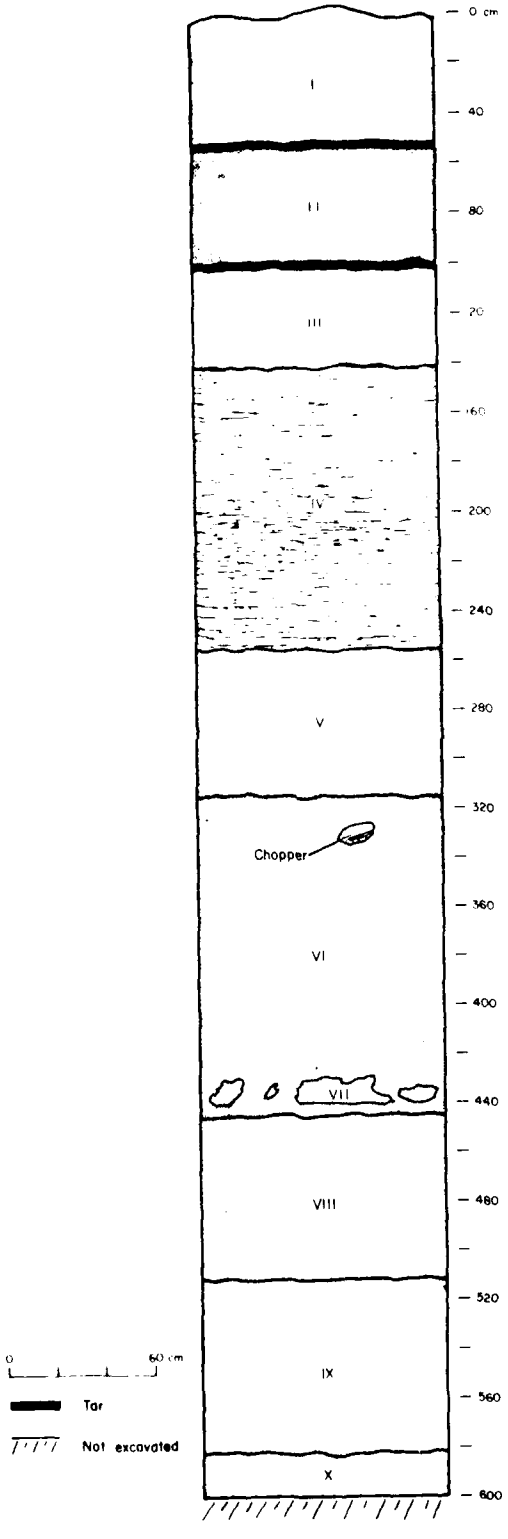
I	0-15 cm	10YR5/3d; sandy loam, massive, non-sticky, non-plastic; many very fine to medium roots; no effervescence; abrupt wavy boundary.
II	15-42	10YR5/3d; sandy loam, strong columnar, non-sticky, non-plastic; common fine to medium roots; no effervescence; gradual wavy boundary.
III	42-95	10YR5/3m; sandy loam, massive, non-sticky, non-plastic; few fine to medium roots; no matrix effervescence; lower one-third contains carbonate inclusions that are violently effervescent; gradual wavy boundary.
IV	95-226	10YR5/3m; sandy loam, massive, non-sticky, non-plastic; few fine to medium roots; strong effervescence: abrupt smooth boundary.
V	226-275 (bottom)	10YR3/3w; sandy loam, massive, non-sticky, non-plastic; common very fine to fine roots; strong effervescence, more so near top of stratum; saturated due to raised water table.

Figure 7. Stratigraphic profile, Trench 2, 45WW62.


0 cm
I
II
40
III
80
120
IV
160
200
240
V
0
20
40 cm
Not excavated

I	0-50 cm	10YR5/3d; fine sand, single grain, non-sticky, non-plastic; active dune; common fine-medium fine roots; abrupt wavy boundary.
II	50-100	10YR5/3m; fine sand, massive, non-sticky, non-plastic; common fine/very fine roots; many pebbles/cobbles, boulders to pebbles present; abrupt wavy boundary.
III	100-140	10YR5/3m; medium-fine sand, massive, non-sticky, non-plastic; common fine/very fine roots; abrupt wavy boundary.
IV	140-265	10YR6/3d; sandy loam, strong columnar, non-sticky, non-plastic; common fine roots; common very fine to fine pores; chopper from near top of unit; abrupt smooth boundary.
V	265-325	10YR6/3m; fine sandy loam, massive, non-sticky, non-plastic; strongly effervescent; few fine roots/pores; gradual smooth boundary.
VI	325-455	10YR5/3m; sandy loam, massive, non-sticky, non-plastic; slightly effervescent, carbonates probably in root channels, plus strongly effervescent inclusions; few fine to very fine roots.
VII	455-465	10YR5/2m; silt loam, massive, slightly sticky, slightly plastic; strongly effervescent; boulder (manuport) in this unit; many fine pores; one flake from this stratum; abrupt broken boundary.
VIII	465-530	10YR6/3m; medium to fine sand, massive, non-sticky, non-plastic, few fine roots, very slight effervescence; abrupt smooth boundary.
IX	530-595	10YR5/3m; sandy loam, massive, non-sticky, non-plastic; slightly effervescent; abrupt smooth boundary.
X	595-613	10YR4/3m; medium to fine sand, massive, non-sticky, non-plastic; slightly effervescent; saturated due to raised water table.

Figure 8. Stratigraphic profile, Trench 3, 45WW62.


0 cm
40
80
120
160
200
240
280
320
360
400
440
480
520
560
600
I
II
III
IV
V
Chopper
VI
VII
VIII
IX
X
0
60 cm
Tar
Not excavated

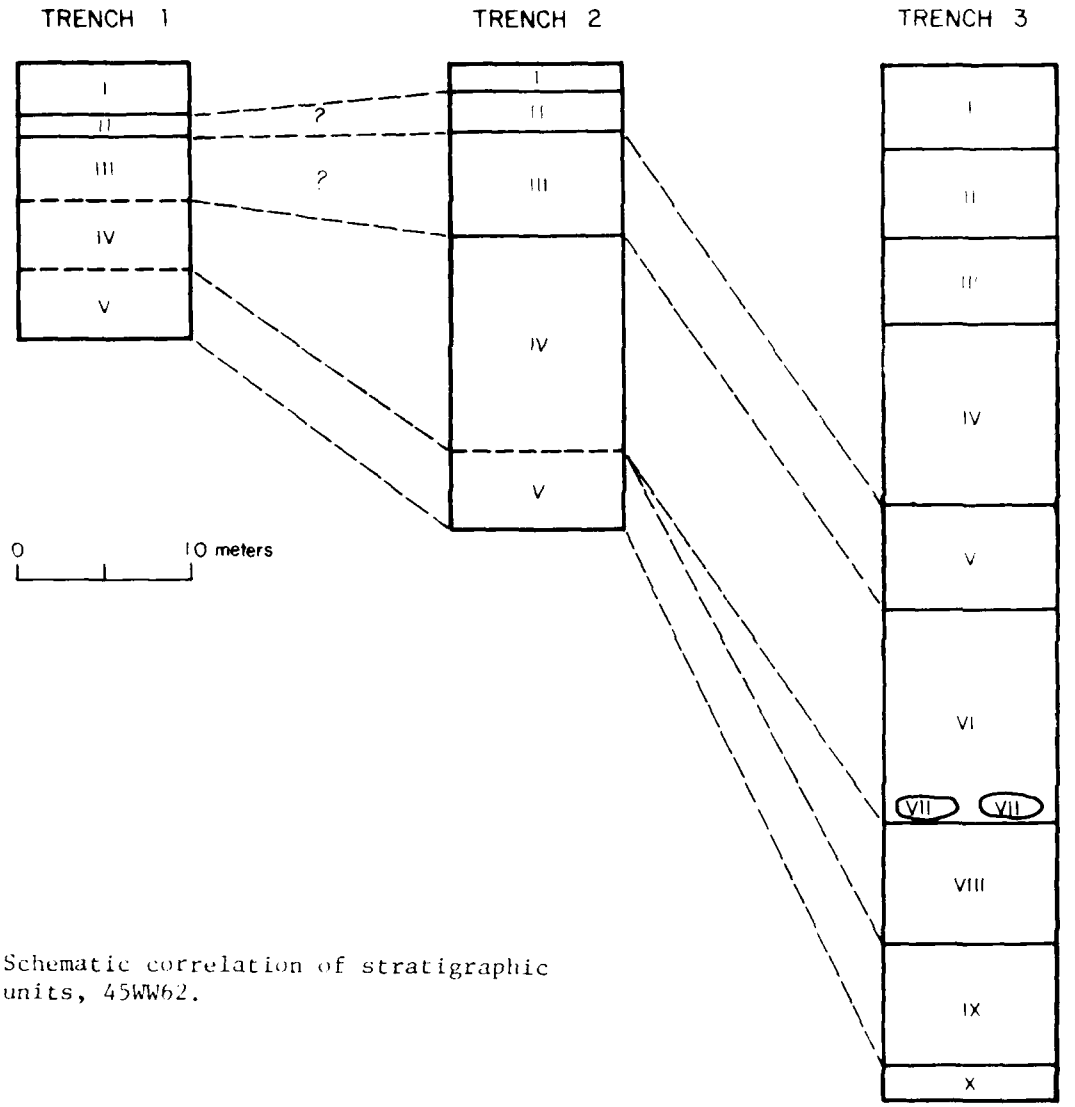


Figure 9. Schematic correlation of stratigraphic units, 45WW62.

Table 2. Association of Test Units with Stratigraphic Units in Trench 2.

Test Unit	Stratigraphic Unit
1	III and the top of IV
2	IV and the top of V
3	V
4	I, II, and III

contact of this unit with Stratigraphic Unit IV. Four cryptocrystalline flakes were recovered from Test Unit 3, all in association with Stratigraphic Unit V. A single cryptocrystalline flake was found in Test Unit 1 in association with Stratigraphic Unit III (Table 3).

In Trench 3, Test Unit 5 produced a single flake, probably associated with Stratigraphic Unit VII, a former surface (Figure 8). This surface was not interpreted to be the early alluvium deposit. No other artifactual materials were recovered from Trench 3 (Table 3).

Although the testing results are meager at best, there are some lines of evidence to suggest that there may be buried Windust phase materials at the Mitchell site. In addition to the flakes, two fire-cracked rocks were noted in the wall of Test Unit 3 within Stratum V, identified as the early alluvium. In Test Unit 5, several pebble lines indicative of former surfaces were noted within Stratum IX, which correlated across the site with Stratum V in Trench 2. These pebbles suggest that Windust phase materials might be contained in the hypothesized depositional environment.

The results of soils analyses are presented in Table 4. In this preliminary investigation of 45WW62, it would be premature to interpret these data in terms of reconstructing past environments at the site. Rather, the data are presented to provide a comparative basis for future research and to indicate the variation within depositional units.

Table 3. Association of Cultural Material with Stratigraphic Units by Trench.

Provenience	Artifact
Trench 2, Stratigraphic Unit V	4 flakes
Trench 2, Stratigraphic Unit III	1 flake
Trench 3, Stratigraphic Unit VII	1 flake

Table 4. Results of Soils Analysis, 45WW62.

Provenience	%LOI*	%Sand	%Silt	%Clay**
Trench 2, Stratum IV	2.6	33.5	59.1	7.4
Trench 2, Stratum V	2.38	30.7	59.4	7.4
Trench 3, Stratum IX	1.77	48.4	46.7	4.9
Trench 3, Stratum VIII	2.78	28.6	60.3	11.1

* Loss on ignition at 600° C; average of two determinations.

** Particle size by hydrometer method.

Although test excavations at 45WW62 have not produced materials definitely assignable to the Windust phase, sediments exist which appear to be of the appropriate age to contain such materials. Moreover, there is some evidence for cultural materials within those sediments; the lack of materials in the overlying sediments suggests that these materials are not intrusive from later deposits. Based on the results of test excavations, it would be premature to consider 45WW62 to be eligible for the National Register of Historic Places without extensive additional excavation. While the site might contain important information, as suggested by the artifact collection from the site, the present testing effort did not corroborate this.

RECOMMENDATIONS

The Mitchell site has been eroded severely by wind and wave action subsequent to the raising of the Ice Harbor Reservoir. Although erosion continues at the present time, the rate of erosion and its effect on the early alluvium deposits which may contain Windust phase cultural materials are not known. This stratum is more compact than the upper soil units and appears to be more resistant to erosion. Until the rate of erosion can be documented more accurately, and until cultural materials of Windust phase age can be associated with the eroding soils, site protection measures such as bank stabilization and/or data recovery are not warranted.

It is recommended that 45WW62 be monitored periodically to document the extent and rate of erosion more precisely. The site also should be monitored for unauthorized excavation and for the appearance of additional archaeological materials in the cutbank.

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